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Access to Resources in Networks: A Theoretical and Empirical Critique of Networks as a Proxy for Social Capital

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A Theoretical and Empirical Critique of Networks as a Proxy for Social Capital

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abstract: In cross-national comparative studies of people's social capital, there is a standard practice of measuring social capital using the size and intensity of people's networks. In this article, we discuss the validity of this practice, from both a theoretical and an empirical perspective. Theoretically, the practice is problematic, because it disregards that, according to original authors on the subject, social capital is about people's access to resources in their networks. This means that having network relationships is a necessary, but by no means sufficient, condition for possessing social capital. Empirically, using pooled data from the 2001 ISSP comparative survey, we found some positive relationships between network characteristics and people's potential access to resources in their networks. The relationships are weak, however, which means that the assumption that network characteristics are adequate proxies for social capital is equally weak.

Keywords: cross-national ◆ definition ◆ informal networks ◆ measurement ◆ social capital

Introduction

Social capital has become an important concept and is the subject of empirical study in a broad range of areas covered by the social sciences, including sociology, political science, economics, geography, anthropology, history and also medicine. In addition, it has become a darling concept among bureaucrats and politicians who are worried about failing social cohesion, a loss of civic engagement and such problems. Its popularity and wide usage, however, have not led to consensus about its definition and measurement. On the contrary, there is ongoing debate on several issues; for example, whether social capital is the property of individuals (as claimed in the tradition based on the work of Bourdieu), or of meso-level and macro-level collectivities (as is claimed in the tradition following Putnam's work); what types of social capital there are (bonding, bridging, linking social capital); what social capital actually consists of (network relationships, trust, civic norms); whether it has positive and/or negative social functions; whether it is a cause or a consequence of civic engagement (for brief reviews of these debates, see, e.g., Portes, 1998; Johnston and Percy-Smith, 2003; Halpern, 2005; Van Oorschot et al., 2006). The actual measurement of social capital in empirical studies depends, of course, to a large extent on the position researchers take in such debates. Although we see the variety in perspectives as an opportunity to gain a wider understanding of how individual people, groups and societies can benefit from social life, instead of as an academic problem

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that has to be solved before any empirical statement on social capital can be accepted, this does not mean that anything goes in empirical research on social capital. For one thing, irrespective of the theoretical position taken in the debates, empirical measurements carried out in any perspective must be valid and reliable.

In this study, we aimed to contribute to the conceptualization and measurement of social capital by presenting a critical view on the validity of a particular way of measuring social capital which has become rather popular in cross-national studies on social capital. Examples of such studies can be found in different fields: In social policy analysis, where research is done on the effects of welfare state types and social spending on people's social capital (Scheepers et al., 2002; Van Oorschot and Arts, 2005; Kaarianinen and Lehtonen, 2006); in economics, e.g. studies on social capital effects on economic performance (Knack and Keefer, 1997; Beugelsdijk and Smulders, 2003); in political science, e.g. studies on the relationships between people's social capital and their political participation (Billiet and Cambree, 1999). Examples can also be found in sociology, e.g. studies on the relationship between social capital and participation in everyday life (Dekker and Uslaner, 2001), and in the health sciences, e.g. studies on social capital effects on health and human development (Kawachi et al., 1997; Christoforou, 2006). What these studies have in common is a measurement of social capital that is based on characteristics of individual people's social networks,[1] their size and/or intensity, as revealed by people in opinion surveys.[2] Typical measures of size are, for example, based on the number of voluntary associations people are members of, the number of good friends they have, the number of relationships with people in the neighbourhood and the number of relatives they have contact with. The intensity of networks is measured using, for example, the frequency of contact people have with family members, with friends and with colleagues from work, and how active they are in the associations they are members of, and such like. The aim of this study was critically to discuss this method of measuring people's social capital using characteristics of their networks, from both a theoretical and an empirical perspective.

In some of the studies mentioned, social capital was equated with people's networks without much discussion; in others it was explained that a pragmatic approach was taken, and network information was used as a proxy for people's social capital because of a lack of data that could be used to measure the concept more directly. In our view, there is nothing principally wrong with a pragmatic approach, but the question we raise here is how good a proxy of social capital network information is. Does a larger network, or more frequent contact with network members, imply more social capital as the concept is understood by the scholars who originally developed it?

To address this question we start with a theoretical part in which we briefly discuss different authors' conceptualizations of social capital, and we suggest a core definition. Based on this, we then proceed to discuss theoretically the problems of measuring people's social capital using the size and intensity of their networks. In the empirical part of the article we describe how we used data from the 2001 ISSP survey to assess the actual relationships between properties of individuals' networks and a more direct measurement of the concept of social capital as it was understood in this article.

The concept of social capital and implications for its measurement

For our purposes here, it is good to realize that in most of the empirical studies whose practices of measuring social capital we discuss later, social capital was basically regarded as a property of individuals, as in the tradition of Bourdieu and Coleman, although in some of them individual-level network scores were aggregated to a national level (with the aim of comparing national levels of social capital). This stands in contrast to a perspective of social capital as the property of groups (neighbourhoods, regions, nations), as in the Putnam tradition, which

regards social capital as the aggregate of the social relationships in a group, including the trust and norms of cooperation that guide them (Putnam, 1995). Since most of the studies we discuss are from the 'property of individuals' tradition, and individual-level data were used in them, we discuss the practice at issue from that perspective.

Let us start with the definition of Bourdieu, one of the original authors on social capital. He developed the concept in his class analyses of social inequalities in the various forms of capital people can possess. His definition of social capital reads as follows:

> Social capital is the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition – or in other words, to membership in a group – which provides each of its members with the backing of the collectivity-owned capital, a 'credential' which entitles them to credit, in the various senses of the word. (Bourdieu, 1986: 248)

Clearly, in Bourdieu's view, social capital is about the revenues, actual or potential, that individual people can elicit from networks they are members of. Or, in Bourdieu's terms, social capital regards the resources as residing in people's networks, which they can access as members of the network. This brief core definition of social capital as 'access to resources in networks' is also a central element in Lin's definition, according to which social capital is the '(1) quantity and/or quality of resources that an actor (. . .) can access or use through (2) its location in a social network' (2000: 786). Coleman, in the chapter on social capital in his book *Foundations of Social Theory*, introduces the concept by saying that a central perspective of his social theory is that actors are seen as beginning with resources over which they have some control and in which they have interest. He continues by saying that the social relationships which come into existence when individuals attempt to make the best of their individual resources need not be seen merely as components of social structures, however. 'They may also be seen as resources for the individuals' (1990: 300). After some discussion of related ideas in the works of others,[3] he opts to conceive of '. . . social-structural resources as a capital asset for the individual, that is, as social capital' (Coleman, 1990: 302). The formal definition he then gives for social capital reads as follows:

> Social capital is defined by its function. It is not a single entity, but a variety of different entities having two characteristics in common: They all consist of some aspect of a social structure, and they facilitate certain actions of individuals who are within the structure. Like other forms of capital, social capital is productive, making possible the achievement of certain ends that would not be attainable in its absence. (1990: 302)

Despite Portes's (1998) criticism of the definition as vague, and while Coleman does not explicitly distinguish between the networks proper, the resources in them, and an individual's access to them, these elements are clearly present in his development of the concept. In our view, the conclusion is that social capital, in its basic understanding, can be seen as people's access to resources in their networks.[4] People with no network relationships, or with relations that do not possess the (relevant) resources, or with resourceful relations whose resources they have no access to, have no social capital. Or, as Coleman would perhaps put it, they lack a social structure that can facilitate the achievement of their goals.

The core definition of 'access to resources in networks' having been accepted, several points are relevant with a view to measuring and comparing individual people's social capital. First, theoretically, the size and intensity of a person's network relationships in themselves say nothing about the resources the network and its members might contain for the person. Persons A and B may have the same network size and intensity (however measured), but there may be large differences in whether their particular networks contain resources which they can use for achieving the goals they have set themselves. Where A and B have the same needs

and goals, it is possible that their networks have different degrees and qualities of helpful resources. It may even be the case that A's or B's networks are 'empty', that is, they do not contain a single resource that is relevant for the achievement of their particular goals. Where A and B have different goals or needs, meaning that they would be helped by different types of resources, measuring and comparing their social capital on the basis of the size and intensity of their networks would be very much like comparing apples with oranges. Clearly, simply measuring the size and intensity of people's networks says little about which persons have more social capital than others, or whether persons have social capital at all. Information is also needed on whether the network and its members possess resources that are relevant to a person's specific goals and needs.

Second, merely having networks that contain resources is not sufficient for people's goal achievement. Having social capital assumes not only having network relationships with relevant resources, but also having access to the resources.[5] In practice, there may be many different barriers to access to resources, but a simple distinction can be made between physical barriers (a good friend has a lawn mower ego would like to borrow, but the friend lives in another part of the country) and social barriers (a fellow member of the football team has a lawn mower ego would like to borrow, but he feels he cannot ask for it because he does not want to become indebted to the specific team member). Clearly, if a researcher were to measure only whether people have social relationships with people who have lawn mowers, thus aiming to compare people's social capital for getting their lawns mowed, the lack of information on people's access to the resource would make the comparison invalid. The researcher could only *assume* that people who have lawn mower owners in their networks would have more social capital than those who do not. In other words, having social capital implies that the others who possess the resources needed are *able and willing* to share them with ego, that is, to give ego access. The necessary combination of being able and willing to grant ego access is a controversial point of view. In his milestone article on the origins of the concept of social capital and its applications in modern sociology, Alejandro Portes stipulates that willingness to provide ego with a resource would in itself be sufficient for saying that ego has social capital. He uses the example of students A and B who are in need of a tuition loan, and then argues the following:

> Saying, for example, that student A has social capital because he obtained access to a large tuition loan from his kin and that student B does not because she failed to do so neglects the possibility that B's kin network is equally or more motivated to come to her aid but simply lacks the means to do. Defining social capital as equivalent with the resources thus obtained is tantamount to saying that the successful succeed. (Portes, 1998: 5)

In our view, however, the fact that B's network does not contain the necessary resource means that B lacks social capital for achieving the goal of getting a loan. B's network is willing, but not able to give B access to the relevant resource. This does not mean, we agree with Portes, that only successful use of network resources indicates a person's social capital. Social capital is not only about actual access; it is also about potential access. If student A in Portes's example had not used the possibility of getting a loan from his or her network, and had provided for it in some other way, the social capital would still be there. As with economic capital, it is not the use of large sums of money that indicates access to capital; one might also possess large savings accounts that are there for potential use.

A third point, alluded to before, is that people may have very different goals and needs, with a related variety in relevant resources, for which they can appeal to members of different types of networks they are a member of. People might want information on which supermarket charges the least for their beer, advice on which dentist in the neighbourhood is most pleasant and reliable, help with mending a broken-down sewing machine, an accomplice for the creation of a cover-up story, to borrow an amount of money, etc. When aiming to measure

and compare individuals' general levels of social capital, the problem with this fact of multiple needs is, first of all, that it would be practically impossible to measure access to all resources in all networks that might be relevant for helping people to meet their various needs. Even if the researcher were to succeed in doing that, it would be highly problematic to decide how to weigh the importance of the various accessible resources in order to arrive at a comparable measure of people's social capital. There is no common 'currency' that would enable one to add up different things, like a shoulder to cry on, a letter of reference and a cup of sugar. In other words, it is impossible to measure a person's total level of social capital and to compare this to that of another person. In our view, the practical implication of the multiplicity of people's needs is that the more the researcher focuses on a particular type of need, the more validly people's level of social capital can be measured and compared. For instance, measuring and comparing the social capital of people who want to borrow a lawn mower can be done more validly than measuring the social capital of people regarding a need for 'practical help from friends' or 'finding a job', etc. Given a specified need, a researcher could then define the type of resources that would be relevant, and subsequently measure the degree to which people have access to such resources in their networks. In other words, the recognition that social capital can regard any need or goal leads us to believe that the best way to measure it is to focus not on some general social capital measure, but on social capital relative to certain needs or goals. Though it is not an entirely new insight,[6] recognition of this point is absent in many studies of social capital.

Accepting the definition of people's social capital as the degree to which they have access to resources in their networks, and with the above theoretical considerations in mind, we can now clearly see the problems of studies in which people's social capital are measured and compared on the basis of the size and intensity of their network relationships. Theoretically, size and intensity of networks do not necessarily indicate whether resources are available which would be relevant to people's needs, nor do they indicate whether network members would be able and willing to give ego access to them. Nevertheless, in the studies at issue, it was assumed that larger size and higher intensity of networks are related to more access to relevant resources. In addition, in most of the comparative studies on people's social capital, it was not specified what kind of needs or goals the networks measured should provide for. Instead, it seems to have been assumed that the networks would potentially be suited to cover any need. Even in studies in which a particular need or goal were specified, measuring only the network characteristics relevant to that particular need or goal would still be a blunt proxy for the access ego has to the resources residing in the networks.

Testing the assumption of networks as proxy for social capital

Although the general assumption of quite a few cross-national comparative studies on people's social capital, that differences in the size and intensity of people's networks indicate differences in people's level of social capital, is theoretically problematic, it still has to be shown if and to what degree the assumption is empirically invalid. Considering that a network is a necessary but not sufficient condition for social capital, a certain positive relation between the two can be expected. The question we were interested in was to what extent differences in network can explain differences in access to resources through these networks.

In this section we describe our empirical analysis of the general assumption that the larger a person's network, and the more frequent the person's contacts with network members, the greater the chances that the person can access a resource through his or her network. For this we used cross-national comparative data from the 2001 ISSP survey. We related information on characteristics of people's personal, informal networks to whether or not they would have access to resources in these same networks in case of three specific needs: to borrow money, to

have help around the house if they were sick, and to have someone to talk to if they were feeling down and depressed. The validity of the general assumption is stronger to the degree that there are stronger relationships between the network characteristics and access to resources.

Data

The 2001 survey of the International Social Survey Programme (ISSP) contains relevant data, especially in its module Social Networks II on 'Social Relations and Support Systems'. The original 2001 ISSP sample consists of 28 countries. (For more information on ISSP, you may visit www.issp.org.) Limiting investigation to Western industrialized countries from the OECD, plus countries from Eastern Europe, we analysed the pooled data from 20 countries: Australia, Austria, Canada, The Czech Republic, Denmark, Finland, France, Great Britain, Hungary, Italy, Japan, Latvia, New Zealand, Norway, Poland, Russia, Slovenia, Spain, Switzerland and the United States.[7] The resulting sample included 24,932 respondents.[8]

Measurements

Access to resources

The ISSP questionnaire allowed us to measure access to resources in people's personal, informal networks. People were asked who they would turn to if they needed help in three different situations: if they needed to borrow money, if they needed help around the house if they were sick, and if they needed someone to talk to if they were down and depressed. The questionnaire lists a series of possible network members (mother, father, daughter, son, sister, brother, other blood relative, other in-law relative, close friend, neighbour, someone the respondent works with and someone else); respondents were asked to which person they would turn in the first instance and to which in the second. Respondents could also answer 'no one'. From these ISSP questions we constructed three dichotomous dependent variables: access or no access to borrowing money, access or no access to help in the household and access or no access to someone to talk to when down and depressed. We considered people to have access if they mentioned a person in the first or second instance, and to have no access if they opted for the answer that they had no one to turn to.[9] See Table 1 for the frequency distributions of the three access scales.

Network characteristics

The ISSP 2001 survey allowed us to measure some aspects of size and frequency of contact in people's informal networks. As for size, the ISSP 2001 measured the *number of close friends* people had at work, in the neighbourhood, and elsewhere. We included these three questions as separate variables: number of close friends at work, number of close friends in neighbourhood and number of other close friends. Table 2 gives the frequency distributions.

A second measure of network size is whether people participate in the activities of groups or associations. The respondents were asked whether or not they had participated in the activities of six types of groups, plus a rest category, in the year previous to the survey. (The types of groups mentioned were a political party, club, or association, a trade union or professional association, a church or other religious organization, a sports group, a hobby or leisure club, a charitable organization or group, a neighbourhood organization or group and other associations or groups.) We included this information as a variable to measure the number of groups in which people had participated actively. Table 3 shows the frequency distribution of this variable.

Regarding *contact frequency*, the ISSP 2001 survey asks how often people have face-to-face contact and how often they have other contact with their father, their mother, the child with whom they have the most frequent contact and their best friend. We combined these two aspects in one variable, measuring how often the respondent had face-to-face or other contact

Table 1 *Access to resources in informal networks in three situations of need (%)*

	Borrow money	Help in household when have flu	Someone to talk to when down or depressed
Access to resources in networks	80	96	92
Mother	18	26	13
Father	15	3	2
Daughter	6	23	13
Son	7	13	6
Sister	5	6	9
Brother	6	3	4
Other blood relative	4	2	2
Other in-law relative	4	5	2
Close friend	8	10	38
Neighbour	1	5	2
Someone you work with	1	1	2
Employer	2	–	–
Someone else	2	1	1
No access to resources in networks	20	4	8
N	21243	23152	22814

with the person in question. The categories used were 'no such relative or friend/no contact', 'less than several times a year', 'several times a year', 'at least once a month', 'at least once a week', 'at least several times a week', 'daily' and 'living together'. In our analyses, we included the four questions as separate variables: contact with father, contact with mother, contact with child and contact with friend. See Table 4 for the frequency distributions of these variables.

Analyses

A standard procedure to test whether there is evidence for the alleged positive association between indicators of people's network, on the one hand, and their level of social capital

Table 2 *Number of close friends at work, in the neighbourhood, and elsewhere (%)*

	Close friends at work	Close friends in neighbourhood	Other close friends
0 friends*	62	34	23
1 friend	9	12	8
2 friends	10	17	12
3 friends	6	9	9
4 friends	3	8	8
5 friends	3	6	8
6 friends	1	4	5
7 friends	0	1	2
8 friends	1	2	2
9 friends	0	0	1
10 or more friends	3	8	23
Total	100	100	100
N	23540	23732	23922

* For friends at work: including those not working.

Table 3 *Number of groups in which the respondents participate actively* (%)*

Number of groups	Participation
0 groups	51
1 group	24
2 groups	13
3 groups	6
4 groups	3
5 groups	2
6 groups	1
7 groups	0
Total	100
N	22164

* Participated in activities at least once during previous year

Table 4 *Frequency of contact with relatives and closest friend (%)*

	Adult child	Father	Mother	Friend
No contact, no such relative/friend alive	51	55	39	13
Less than several times a year, never	0	3	1	1
Several times a year	1	4	3	6
At least once a month	3	7	7	14
At least once a week	8	10	14	23
At least several times a week	11	8	13	26
Daily	10	5	9	15
Living together	15	10	14	2
N	23117	23136	23627	24190

measured as access to resources, on the other, would be to assess correlation coefficients. However, our access-to-resources variable was dichotomous, and some of the network variables were measured on an ordinal level, making correlation a less suitable approach. We therefore use logistic regression, with the variable measuring access to resources as the dependent variable, and the network characteristics as the predictor variables. Compared to correlation, this method gave us the added advantages of being able to assess the direct and independent effects of the network variables, as well as being able to include and control for effects of the countries people lived in. This latter was necessary because there was quite some country variation in the dependent variable, especially regarding borrowing money, as shown in Table 5.

In the next section, we present both the regression parameters and analyses of the degree to which the network characteristics contributed to explaining the variation in access to resources, in addition to the variation explained by the countries people lived in. For our purpose here, which was to test the suitability of network characteristics as a proxy for access to benefits in networks, the latter approach was most suited. As previously stated, positive regression coefficients were to be expected, as our independent variable was a necessary condition for the dependent. The matter of interest was how well suited the values on the network characteristics were to empirically predicting the scores on the access-to-resources variable. This is referred to as criterion-related validity (Baker, 1994). We used the parallel to the OLS measure of explained variance, R squared. Furthermore, we calculated the percentage improvement in prediction obtained by using knowledge of a respondent's network.

Table 5 *Access to resources in informal networks in three situations of need, by country (%)*

	Borrow money		Help in household when have flu		Someone to talk to when down or depressed	
	Access	No access	Access	No access	Access	No access
Australia	81	19	95	5	93	7
Great Britain	74	26	97	3	94	6
United States	84	16	96	4	95	5
Austria	73	27	98	2	93	7
Hungary	67	33	94	6	82	18
Italy	85	15	97	3	91	9
Norway	82	18	98	2	95	5
Czech Republic	82	18	97	3	94	6
Slovenia	85	15	99	1	92	8
Poland	83	17	99	1	94	6
Russia	86	14	94	4	93	7
New Zealand	74	26	94	6	91	9
Canada	75	25	96	4	93	7
Japan	90	10	98	2	96	4
Spain	90	10	97	3	93	7
Latvia	74	24	95	5	81	19
France	80	20	94	6	90	10
Denmark	70	30	97	3	94	6
Switzerland	84	16	98	2	94	6
Finland	83	17	94	6	91	9
Total	80	20	96	4	92	8

Results

Table 6 gives the results of the logistic regressions. For reasons of space we have omitted the country parameters, but note that the models analysed included the variable of the countries people lived in.

Regarding *borrowing money*, Table 6 indicates that people have relatively less access to a resource for this in their informal network if they have no father, no mother or no close friend, and if they have very little or no contact with their father. People have relatively more access if they have daily contact with their mother, or live together with their mother, when they have a larger number of close friends, and when they are active in more groups and organizations. Active membership of organizations is also conducive to resource access if a person needs *help in the household*. In addition, such access is more readily available to those who have frequent contact with their children, and with their mothers, as well as to those who have a higher number of close friends. It is less readily available to people who have little or no contact with their children, and to those who claim not to have any close friends. Access to *someone to talk to* if one is down or depressed is also stimulated by active membership of organizations and, in addition, by daily contact with children and frequent contact with mother and friends, as well as by having a larger number of close friends. All in all, when the country a person lived in was controlled for, some characteristics of the person's informal network were found to be related to access to resources they can use when they need to borrow money, have help in the household and talk with someone when feeling down or depressed. In all three situations,

Table 6 *Parameters from logistical regressions of network characteristics on access to resources in informal networks*

	Borrow money	Help in household when have flu	Someone to talk to when down and depressed
	Exp(B)	Exp(B)	Exp(B)
Constant	3.949	13.077	7.744
Contact child			
Not applicable (no adult child, no contact)	1.049	1.027	1.068
Less than several times a year, never	0.488	0.230*	0.813
Several times a year	0.581	1.107	0.737
At least once a month (reference category)			
At least once a week	0.803	1.409	1.086
At least several times a week	0.881	2.832*	1.519
Daily	0.937	4.237*	1.760*
Living together	0.923	3.421*	1.493
Contact father			
Not applicable (father no longer alive)	0.510*	0.723	0.819
Less than several times a year, never	0.635*	0.707	0.923
Several times a year	0.699	0.603	0.863
At least once a month (reference category)			
At least once a week	1.094	0.965	1.315
At least several times a week	1.129	1.088	0.910
Daily	0.910	1.081	1.016
Living together	1.298	1.033	1.288
Contact mother			
Not applicable (mother no longer alive)	0.757*	1.009	0.917
Less than several times a year, never	0.710	0.623	0.537*
Several times a year	1.036	1.338	0.911
At least once a month (reference category)			
At least once a week	1.086	1.463	1.166
At least several times a week	1.297	1.732	1.733*
Daily	1.536*	2.595*	1.501*
Living together	1.172	3.541*	1.292
Contact friend			
Not applicable (no close friend)	0.608*	0.660*	0.421*
Less than several times a year, never	0.674	0.782	0.473*
Several times a year	0.909	0.724	0.605*
At least once a month (reference category)			
At least once a week	1.071	1.443	1.210
At least several times a week	1.197	1.507	1.203
Daily	1.193	1.740*	1.368*
Living together	0.972	1.457	1.024
Number of close friends at work	1.029	1.013	1.030
Number of close friends in neighbourhood	1.025*	1.112*	1.056*
Number of other close friends	1.034*	1.082*	1.037*
Number of active org memberships	1.104*	1.168*	1.151*

(Models include dummy variables for countries: parameters not shown)
* significant at 1% level

access to resources is greater for those who are active members of organizations, have more intensive contacts with mother and friends and have more friends.

The fact that these are statistically significant relationships, however, does not necessarily mean that these relationships are strong.[10] In order to determine to what degree network characteristics can be taken as proxies for people's social capital in terms of their access to resources in these networks, we investigated the degree to which such characteristics explained the variance in access. This information is presented in Table 7.

Table 7 gives the results of regressions in which we included the country dummy variables only, and regressions to which we added the network characteristics. This allowed us to distinguish what part of the explained variance of our full models was accounted for by the fact that people lived in different countries, and what part was additionally explained by the network characteristics. Table 7 indicates that the network characteristics add significantly to the explanation of the variance in access to resources, but that the added explained variance is at low levels of between 0.084 and 0.113. This means that characteristics of personal networks, such as contact frequency, number of friends and number of active organizational memberships, predict little of people's access to resources in informal, personal networks. This is corroborated by the figures on correct predictions of access, also included in Table 7. In addition to knowledge about the countries in which people live, knowledge about their networks does not improve predictions of potential access to help in the household, or of potential access to a chat when feeling down or depressed. In the case of borrowing money, such knowledge improves the number of correct predictions by only 0.7%.[11] Our conclusion from these figures is that network characteristics are at best only a weak proxy for people's social capital defined as access to resources in networks.[12]

Table 7 *Model descriptives*

	Borrow money	Help in household when have flu	Someone to talk to when down or depressed
N	16154	17306	17057
Nagelkerke R2 Model 1 (country dummies only)	0.043	0.027	0.042
Nagelkerke R2 Model 2 (full model)	0.156	0.135	0.126
Δ Nagelkerke R2 Model 2 – Model 1	0.113	0.108	0.084
Δ $\chi 2$ Model 2 – Model 1	1206.632* (df = 32)	465.915* (df = 32)	636.929* (df = 32)
Correct predictions model 1 (P1)	81.118	96.846	92.011
Correct predictions model 2 (P2)	81.245	96.847	92.032
Prediction improvement (P2 – P1)/(100 – P1)	0.7%	0.0%	0.3%

* significant at 1% level

Conclusions and discussion

In this article, we theoretically and empirically discussed the validity of a general assumption in (European) cross-national comparative studies about people's social capital, according to which the level of such capital is indicated by the size and intensity of people's networks. From a theoretical point of view, the assumption proved to be problematic vis-à-vis a definition of social capital that we derived from a brief overview of definitions provided by some of the original social capital scholars, including Bourdieu and Coleman. In the light of this definition, according to which people's social capital regards the degree to which they have access to resources in their networks, the problem with the general assumption is that size and intensity of networks do not indicate whether resources are available that would be relevant for meeting people's needs; nor do they indicate whether network members would be able and willing to give ego access to them. In addition, in most of the comparative studies on people's social capital, it is not specified for what kinds of needs or goals the networks measured should provide resources. Instead, it seems to be assumed that the networks would potentially be suited to cover any need.

Using data from the 2001 ISSP survey module on social networks, we also found empirical evidence that the assumption is problematic. We did find, in accordance with the assumption, that some characteristics of a person's informal network are related to access to resources which can be used when in need of borrowing money, of help in the household and of a chat when feeling down or depressed. In all three situations, access to resources is slightly greater for those who are active members of organizations, have more intensive contacts with mother and friends and have more friends. The relationships are rather weak, however, implying that the general assumption has some empirical validity, but that it is equally weak.

Our findings suggest, first, that empirical investigation of social capital would benefit from a clear definition of the concept, which should be laid out from the onset to form a basis for a clear operationalization and measurement. When investigating social capital as a property of individuals, we suggest defining social capital as 'people's access to resources in their networks'. Second, there is a need to apply more valid measures of social capital. Measures should focus primarily not on the size and intensity of people's networks, a widespread practice in comparative research, but on the degree to which people have access to relevant resources in their networks. Third, resources are relevant to the degree that their use would help people to achieve goals and satisfy needs. Since people may have very different needs, for which very different types of resources and networks would be helpful, it is recommendable that social capital studies be focused on well-specified types of need, and that people's access to resources in networks that are relevant for the kinds of needs specified be measured and compared. The multiplicity of needs in our view also suggests that it is quite meaningless to measure and compare a thing such as people's total level of social capital.

Finally, we would not wish to claim that our empirical test of the validity of the general assumption is full proof. First, we only had data regarding three types of need: for borrowing money, for someone to help in the household and for someone to talk to. These are all common needs, part of many people's daily lives, and they are needs for which a small network would normally suffice. It is possible that for other types of need, which are perhaps less common and would require more effort from network members, there would be stronger relationships between the size and intensity of people's networks and their access to resources residing in the networks. Second, the variables we used to measure access to resources were skewed, especially in the case of 'someone to help in the household' and 'someone to talk to'. This means that there was little variation to be explained by any factors, including our measures of network size and intensity. Both factors imply that there is good reason in future research to test empirically again the general assumption of 'networks as proxy for social capital', using different data.

Notes

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1. Note that, in some of the studies mentioned, additional aspects of social capital, for example trust and norms, were included. Our critique does not regard these studies' overall perspectives on and measurement of social capital, but focuses on the practice of using characteristics of people's networks, as revealed by them in surveys, as a proxy for their network-related social capital.
2. Typical data sets used, in the European context, are Eurobarometer, the International Social Survey Program (ISSP), the European Values Study (EVS), the European Social Survey (ESS) and the European Community Household Panel (ECHP).
3. Without mentioning Bourdieu's work.
4. See Portes (1998) for similar conclusions. Note that Coleman's formal definition extends social networks to the wider concept of social structures. One could read his definition as saying that social capital is 'access to resources in networks and other social structures'. This would mean inclusion of benefits the individual can gain from social structures other than the networks of family, friends and acquaintances, including from the norms and trust the structures entail. We followed the lead of the studies containing the operationalizations we discuss here, and limited our focus to networks, rather than including other social structures.
5. By 'access to resources' we refer to both potential access (if need should arise) and actual access (situations in which access to resources has been requested and granted). Since use presupposes access, those who have actually used resources in networks are also seen as having potential access.
6. This approach is common, for example, in studies of the effect of social capital on children's upbringing (Edwards and Gillies, 2005). Hyggen (2006) used such an approach in his study of recipience of social assistance among young people. He operationalized social capital using variables to measure whether the respondent grew up with one or two parents, father's education and whether one or both of the parents were on social security benefits during the recipient's childhood. These factors, he argues, are, among other things, important for meeting children's need for knowledge of paths leading into the labour market, and can give access to information about vacancies.
7. East and West Germany were excluded owing to use of a slightly different questionnaire; Northern Ireland was excluded owing to lack of variation in the dependent variable.
8. As it seems to be an implicit assumption among those using networks as a proxy for social capital that this is equally well suited for use in all countries under analysis, we ran our analysis on the pooled data set. Additional country-wise analyses might shed further light on the question, but as our data were not optimal for testing this issue (some of the variables were ordinal level with up to eight separate categories, leading to problems with empty cells in the models), we leave this question for later analysis using other data.
9. The list of answer categories also includes: 'spouse/partner' in all three cases; 'employer', 'government or social service agency', 'bank or credit union', 'private money lender' in case of borrowing money; 'someone you pay to help' and 'social services agency' in case of help around the house; 'psychologist', 'member of the clergy', 'family doctor', 'self-help group' in case of feeling down and depressed. We excluded these categories from the measurement of our dependent variables because they were not covered by the size and contacts of the informal networks measured using the independent variables. We used the person named in the second instance instead of the first for respondents having one of the extra categories (partner or one of the professional alternatives) as their first choice. Respondents who gave one of these extra categories as first choice and another of these categories as second choice were excluded from the analysis, as we did not know if they would be able to access the resource via their personal, informal network.
10. It should be noted that the large *N* of our pooled data set increased the chances of finding statistically significant relationships.
11. A parallel set of regressions where the independent variables were entered as scales rather than as separate variables (not shown) led to similar results. Entering organizational participation as six different dummies rather than a sum-scale did not change the results either.

12. Of course, our interpretation of the figures remains arbitrary, since there is no standard, commonly used cut-off point for the kind of analysis as we did here, which could be used to judge whether certain degrees of added explained variance, or improved prediction, would indicate a good enough proxy value of the network characteristics. It should also be mentioned that errors in the measurement of the dependent variables could contribute to the weakness of the relationships found. Our main conclusion, therefore, is a preliminary one, which needs to be corroborated by future research using other data.

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